

HARDENER No.3

4,4'-Diazidostilbene-2-2'-Sodium Sulfonate
4,4'-Diazidostilbene-2-2'-Disulfonic acid Sodium Salt

Applications:

Hardener No.3 is a water-soluble photosensitive bis-azide. When added to certain water-soluble gums and polymers, it will cause them to crosslink upon exposure to ultraviolet light. Crosslinking causes the substrates to become water-insoluble. The speed of crosslinking is primarily dependent upon the amount of Hardener No.3 present and the intensity and duration of exposure to light.

The addition of Hardener No.3 to certain water-soluble gums and polymers produces photosensitive coatings which perform as negative photoresists. These photosensitive coatings find application in the graphic arts industry and the electronics field, particularly in the manufacture of T.V. tubes.

Hardener No.3 is a substitute for bichromate hardeners commonly used for insolubilizing water-soluble gums and polymers. It does not cause the environmental problems associated with bichromate hardeners.

Typical Properties:

Color and form.....white to tan free-flowing powder
Assay.....98% minimum
pH of a 2% solution.....10 to 11
Moisture.....Less than 2%
Water of Crystallization (Karl Fisher).....13.5-14.5%
Sensitivity to Light.....Highly photoactive

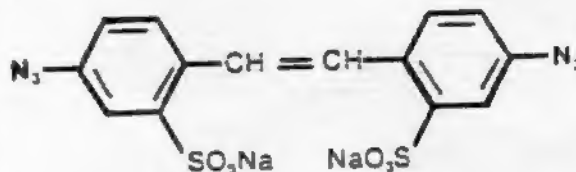
Chemical Names:

4,4'-Diazidostilbene-2-2'-sodium sulfonate.4H₂O
4,4'-Diazidostilbene-2-2'-disulfonic acid sodium salt.4H₂O

TSCA Nomenclature:

2,2'-(1,2-Ethenediyl)Bis 5-Azidobenzenesulfonic acid sodium salt.

Structural Formula:



Molecular Weight: 538

Molecular Formula: C₁₄H₁₀N₆O₆S₂ · 2Na · 4H₂O

CAS Registry No. 2718-90-3

Spectral Characteristics:

Ultraviolet and Visible
Absorption Peaks Appears at
Water λ-Max nm. 335

Solubility:

Hardener Number-3 is water soluble. A three gram weight of product in 80 ml water completed to 100 ml volume should give a clear solution with no turbidity.

Handling:

Hardener No.3 in the solid dry state is very light sensitive. When opening the container or handling Hardner No.3, it should be done under low intensity yellow light for a short as period as possible. When exposed to ordinary or sun-light, Hardner No.3 will quickly turn pink and soon become a brick red color. When handling Hardner No.3, use a plastic scoop; do not use metallic implements. Because of the fine dust-powder, when scooping or handling use a cartridge respirator equipped with dust filters. Wear gloves, goggles and aprons when handling this material. In case of skin contact, rinse area liberally with water, followed with soap and water. In case of eye contact, immediately flush with water and see a physician. If accidentally swallowed, drink large quantities of water and immediately contact a physician. Refer physician to local poison control center.

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